Trend Study14-34-04

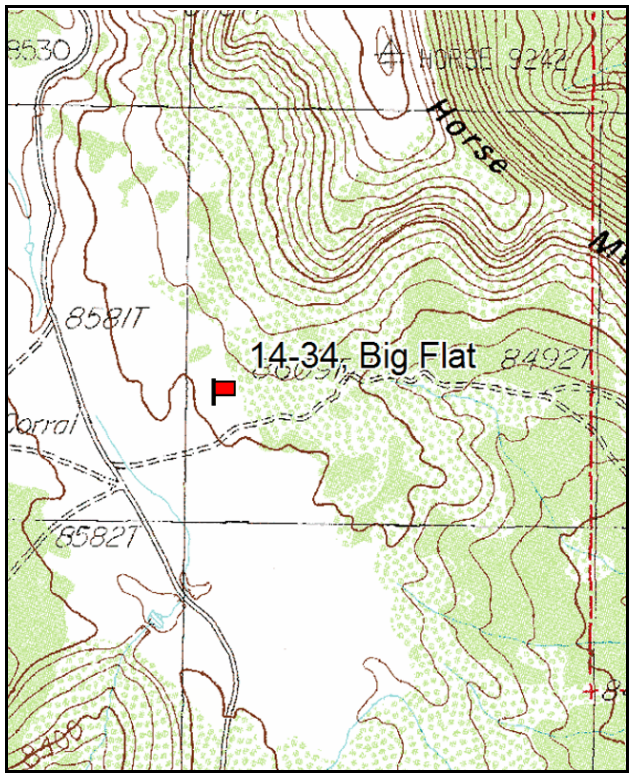
Study site name: Big Flat . Vegetation type: Mountain Big Sagebrush .

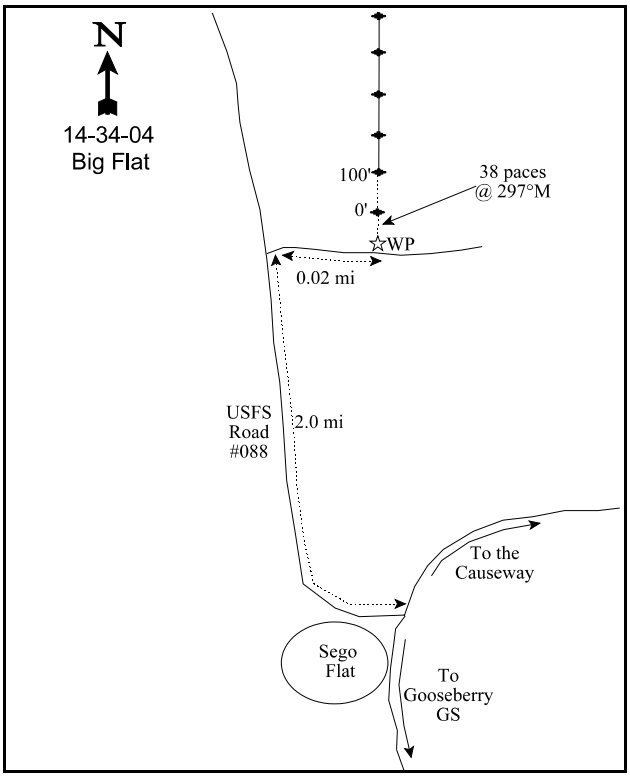
Compass bearing: frequency baseline 322 degrees magnetic.

Frequency belt placement: line 1(11 ft), line 2(34 ft), line 3(59 ft), line 4(71 ft), line 5(95 ft).

LOCATION DESCRIPTION

From the Gooseberry Guard Station travel north about 1.2 miles to Sego Flat. From Sego Flat, stay left and travel 2.0 miles north. Take a right onto a faint road and drive 0.02 miles to a witness post on the left. The beginning of the frequency baseline is 38 paces away at 297°M. The 0-foot stake is marked with a browse tag #152.





Map name: Poison Canyon Diagrammatic Sketch

Township 33S , Range 19E , Section Unsurveyed GPS: NAD 27, UTM 12S 4191272 N, 607072 E

DISCUSSION

Big Flat - Trend Study No. 14-34

Big flat was established in 2004 to be a more representative summer range site that receives significant wildlife use. This study replaces North Long Point (14-21) and The Wilderness (14-26). Both of these studies were located in areas dominated by thick shrubs. North Long Point was an oak community and The Wilderness was a manzanita community. Big Flat receives more wildlife and livestock use and should be more sensitive to changes in the vegetation community. This study was located near a clipping study that this project has monitored to determine use of elk and cattle. Between 1999 and 2002 pellet group transects found an average of 29 elk days use/acre (72 edu/ha), 15 cow days use/acre (37 cdu/ha), and 9 deer days/use acre (21 ddu/ha). Production of available forage varied between 1,550 lbs/acre in 1999 and 251 lbs/acre in 2002. Total use was lowest in 1999 at 48% and highest in 2002 at 80%.

The transect is located in a mountain big sagebrush-grass community with a few oak clones intermixed. The elevation is 8,600 feet with a western aspect and a slope of 8-10%. There is a water impoundment about one-third of a mile to the south. The pellet group transect in 2004 estimated 16 deer days use/acre (40 ddu/ha), 32 elk days use/acre (79 edu/ha), and 26 cow days use/acre (64 cdu/ha).

The effective rooting depth is about 16 inches. The texture is clay loam with a neutral pH (6.8). The A horizon is about 4 inches thick and is dark brown. Below that is a sandy gravelly layer and below that a clay layer. There is very little rock in the profile or at the surface. Bare ground was higher than would be desired for a summer range, but an erosion condition class index rated erosion as stable in 2004.

Browse made up 47% of the total vegetation cover in 2004. Mountain big sagebrush is the most dominant browse species, but is not a key species at this elevation. It made up 96% of the total browse cover in 2004. Sagebrush cover was nearly 20%. Density was high at 8,020 plants/acre, with 43% of the population classified as young. Seedlings were also very abundant with 2,460/acre sampled. Decadence was very low at 4%. Use was light with 82% of the population showing light use. This population is healthy and may continue to expand with such a high proportion of young and seedlings. At this elevation less sagebrush and more grass and forb cover would be desired for summer range.

The herbaceous understory was dominated by two introduced grasses, smooth brome and Kentucky bluegrass. Each had about 6% cover in 2004. Together they made up 54% of the herbaceous understory cover and 99% of the total grass cover. Both are sod forming grasses that are resistant to grazing. Kentucky bluegrass increases under grazing pressure. Smooth brome is an aggressive introduced grass that has good forage value. Native grasses were quite rare here. Forbs were abundant with over 10% cover, but were dominated by species with little value such as ballhead sandwort, aster, trailing fleabane, and silvery lupine. Western yarrow was abundant and has fair value.

2004 APPARENT TREND ASSESSMENT

The trend for soil appears to be stable. Erosion is not currently a problem and vegetation cover is abundant to protect the soil. The browse trend appears to be up. Sagebrush is abundant, reproducing well, and healthy, although the amount of sagebrush is greater than would be desired on a summer range. The herbaceous understory trend appears to be stable. Grasses and forbs are abundant. Kentucky bluegrass and smooth brome can withstand grazing pressure and Kentucky bluegrass can increase under heavy grazing.

HERBACEOUS TRENDS --
Management unit 14 , Study no: 34

Type	Species	Nested Frequency '04	Average Cover % '04
G	Agropyron intermedium	13	.03
G	Bromus inermis	246	6.09
G	Carex spp.	4	.06
G	Poa pratensis	254	6.05
G	Sitanion hystrix	1	.00
Total for Annual Grasses		0	0
Total for Perennial Grasses		518	12.24
Total for Grasses		518	12.24
F	Achillea millefolium	86	2.13
F	Agoseris glauca	2	.00
F	Antennaria rosea	6	.06
F	Arenaria congesta	81	1.37
F	Artemisia ludoviciana	3	.01
F	Aster spp.	67	1.23
F	Collinsia parviflora (a)	9	.01
F	Crepis acuminata	3	.01
F	Cymopterus spp.	17	.14
F	Erigeron flagellaris	97	1.87
F	Eriogonum racemosum	26	.31
F	Heterotheca villosa	9	.54
F	Lathyrus spp.	6	.01
F	Lupinus argenteus	26	1.70
F	Lupinus polyphyllus	8	.16
F	Penstemon humilis	2	.03
F	Penstemon strictus	2	.03
F	Phlox longifolia	43	.33
F	Potentilla concinna	7	.15
F	Polygonum douglasii (a)	4	.01
F	Taraxacum officinale	2	.01
F	Tragopogon dubius	1	.00
F	Vicia americana	11	.02
Total for Annual Forbs		13	0.03
Total for Perennial Forbs		505	10.19
Total for Forbs		518	10.22

BROWSE TRENDS --
Management unit 14 , Study no: 34

Type	Species	Strip Frequency '04	Average Cover % '04
B	Artemisia tridentata vaseyana	88	19.36
B	Quercus gambelii	3	.00
B	Rosa woodsii	4	.03
B	Symphoricarpos oreophilus	16	.78
Total for Browse		111	20.18

CANOPY COVER, LINE INTERCEPT --
Management unit 14 , Study no: 34

Species	Percent Cover '04
Artemisia tridentata vaseyana	25.03
Quercus gambelii	1.39
Rosa woodsii	.13
Symphoricarpos oreophilus	2.33

KEY BROWSE ANNUAL LEADER GROWTH --
Management unit 14 , Study no: 34

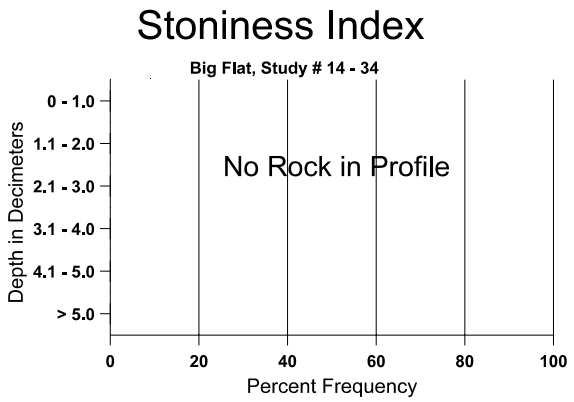
Species	Average leader growth (in) '04
Artemisia tridentata vaseyana	2.0

BASIC COVER --
Management unit 14 , Study no: 34

Cover Type	Average Cover % '04
Vegetation	45.00
Rock	.38
Pavement	.12
Litter	33.32
Cryptogams	.15
Bare Ground	33.60

SOIL ANALYSIS DATA --
Management unit 14, Study no: 34, Study Name: Big Flat

Effective rooting depth (in)	Temp °F (depth)	pH	%sand	%silt	%clay	%0M	PPM P	PPM K	ds/m
16.4	42.8 (16.9)	6.8	23.9	44.2	31.8	3.6	18.5	249.6	0.8



PELLET GROUP DATA --
Management unit 14 , Study no: 34

Type	Quadrat Frequency '04	Days use per acre (ha) '04
Elk	15	32 (79)
Deer	12	16 (40)
Cattle	10	26 (65)

BROWSE CHARACTERISTICS --
Management unit 14 , Study no: 34

		Age class distribution (plants per acre)					Utilization					
Year	Plants per Acre (excluding seedlings)	Seedling	Young	Mature	Decadent	Dead	% moderate	% heavy	% decadent	% dying	% poor vigor	Average Height Crown (in)
Artemisia tridentata vaseyana												
04	**8020**	2460	3420	4240	360	120	18	3	4	.49	.74	21/32
Ceanothus fendleri												
04	**0**	-	-	-	-	-	0	0	-	-	0	13/42
Mahonia repens												
04	**0**	-	-	-	-	-	0	0	-	-	0	4/8
Quercus gambelii												
04	**80**	-	40	40	-	-	50	0	-	-	0	13/16

		Age class distribution (plants per acre)					Utilization					
Year	Plants per Acre (excluding seedlings)	Seedling	Young	Mature	Decadent	Dead	% moderate	% heavy	% decadent	% dying	% poor vigor	Average Height Crown (in)
Rosa woodsii												
04	**120**	-	-	120	-	-	0	0	-	-	0	14/12
Symphoricarpos oreophilus												
04	**600**	-	100	500	-	-	17	0	-	-	0	15/25